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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,701	07/18/2005	Kenjiro Hamanaka	2986-0133PUS1	9087
2292	7590	09/11/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			DOAN, JENNIFER	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/517,701

Applicant(s)

HAMANAKA ET AL.

Examiner

Jennifer Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>080906</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 8/9/06, have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Drawings***

2. The drawings, filed on 07/18/05, are accepted.

### ***Specification***

3. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Fumio (JP 08-101324).

With respect to claim 1, Fumio (figure 4b) discloses an optical device unit in which light exiting from a first optical fiber (5a) is converged by a lens (2a) to travel toward a reflection-type optical element (40), part or the whole of the light exiting from the first optical fiber (5a) is reflected by the reflection-type optical element (40) and is converged by the lens to be coupled to a second optical fiber (5d), the optical device unit being characterized in that the lens is constituted by a first and second lenses (2a, 2d) adapted to the corresponding optical fibers (5a, 5d); the distance between the optical axes of the first and second optical fibers (5a, 5d) is larger than the distance between the optical axis centers of the first and second lenses (2a, 2d); the light exit end of the first optical fiber (5a), the optical axis center of the first lens (2a) and the reflection point on the reflection-type optical element (40) are placed in line (see figure 4b); and the reflection point on the reflection-type optical element, the optical axis center of the second lens (2d) and the entrance end of the second optical fiber (5d) are placed in line (see figure 4b).

With respect to claims 2 and 9, Fumio (figure 4b) discloses the optical device unit characterized in that the optical fibers are multimode optical fibers; the light exit end of the first optical fiber (5a) and the reflection point on the reflection-type optical element (40) are in a geometric-optical conjugate relationship with each other; and the light entrance end of the second optical fiber (5d) and the reflection point on the reflection-type optical element (40) are also in a geometric-optical conjugate relationship with each other (see figure 4b).

With respect to claims 3 and 10, Fumio discloses the optical device unit characterized in that the optical fibers are singlemode optical fibers, and a beam waist of a Gaussian beam is formed at each of the light exit end of the first optical fiber, the reflection point on the reflection-type optical element and the light entrance end of the second optical fiber (see paragraph [0006]).

With respect to claims 4, 5, 11 and 12, Fumio discloses the optical device unit characterized in that the lens has means for correcting abaxial aberration and the means for correcting abaxial aberration has such a shape as to change the optical power along two axes of the lens perpendicular to each other (see paragraph [0005]).

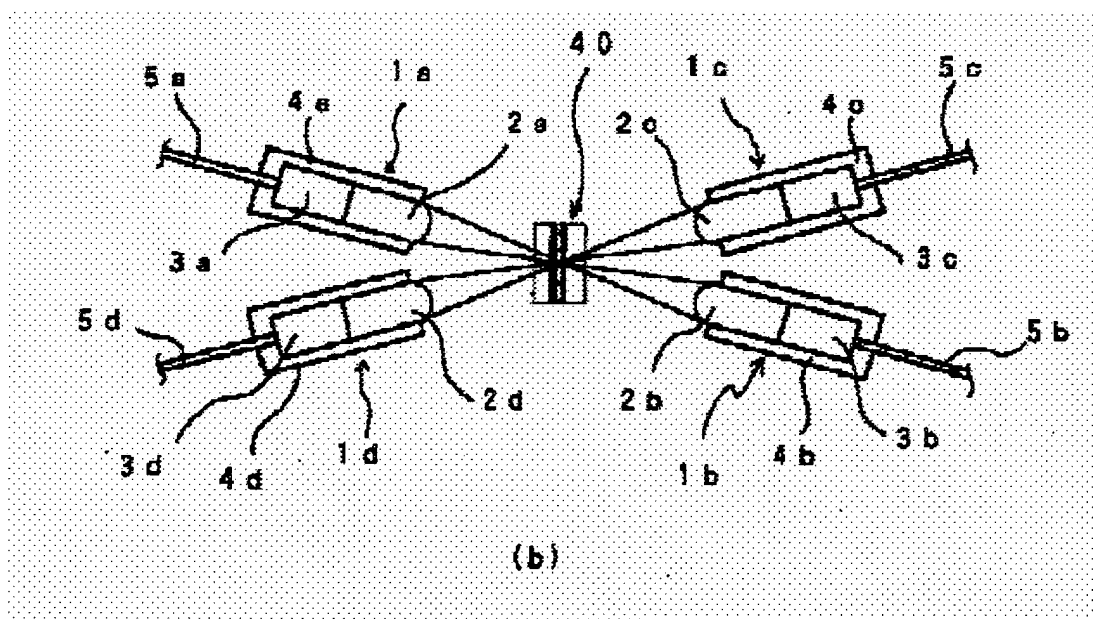
With respect to claims 6 and 13, Fumio (figures 4a, 4b) discloses the optical device unit characterized in that the reflection type optical element is a demultiplexing filter or a reflection element such as a liquid crystal shutter (40, 41).

With respect to claims 7 and 14, Fumio discloses the optical device unit characterized in that a plurality of the optical device units are arranged linearly or two-dimensionally one adjacent to another (see figure 4b).

With respect to claim 8, Fumio (figure 4b) discloses an optical device unit in which an optical fiber (5a) for exit and an optical fiber (5d) for entrance are placed in a pair on at least one of left and right sides of a semitransparent optical element (40) opposite; light exiting from the optical fiber (5a) for exit on one of the left and right sides is converged by lens means; and the converged light is caused to pass through the semitransparent optical element (40) or reflected by the semitransparent optical element (40) to selectively be coupled to the left and right optical fibers for entrance, the optical

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device unit being characterized in that the lens means is constituted by a pair of lenses (2a, 2d) adapted to the pair of optical fibers (5a, 5d) for exit and entrance; the distance between the optical axes of the pair of optical fibers (5a, 5d) for exit and entrance is larger than the distance between the optical axis centers of the pair of lenses (2a, 2d); and the light exit end or the light entrance end of each optical fiber, the optical axis center of the lens corresponding to each optical fiber and the transmission point or the reflection point on the semitransparent optical element (40) are placed in line (see figure 4b).



***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Neilson et al. (U.S. 6,757,458).

With respect to claim 15, Neilson et al. (figure 5) disclose a microlens array (505) having a plurality of lens portions formed on a surface of a transparent substrate, the microlens array (505) being characterized in that two lens in the lens portions form a pair, and the lenses forming a pair have such shapes that the lenses are cut along a bisector perpendicular to a line connecting the centers of the lenses as seen in a direction along the optical axis, and the cut portions are brought into abutment on each other (see figure 5).

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wu et al. (U.S. 6,748,140) disclose an apparatus for chromatic dispersion.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JD

September 1, 2006